

ANATOMICAL TERMS

Definition of anatomy: The study of the structure of the body and the relationship of its constituent parts to each other.

Anatomical Position: All descriptions of the human body are based on the assumption that the person is standing erect, with the arms by the sides and the face and palms of the hands directed forward.

Terms Related to Position:

Median sagittal plane - vertical plane passing through the center of the body, dividing it into equal right and left halves.

Paramedian planes - planes situated to one or the other side of the median plane and parallel to it.

Medial - a structure that is nearer to the median plane of the body than another.

Lateral - a structure that is farther away from the median plane than another.

Coronal planes - imaginary vertical planes at right angles to the median plane.

Horizontal planes - plane which are at right angles to both the median plane and the coronal planes.

Anterior - toward the front of the body in relation to another structure.

Posterior - toward the back of the body in relation to another structure.

Palmer - used to describe the palm of the hand.

Dorsal - used to describe the back of the hand and the top of the foot.

Plantar - used to describe the bottom of the foot.

Proximal/Distal - used to describe the relative distances from the roots of the limbs.

Superficial/Deep - used to describe the relative distances of structures from the surface of the body.

Superior/Inferior - used to describe structures with reference to the upper and lower ends of the body.

Internal/External - used to describe the relative distance of a structure from the center of an organ or cavity.

ANATOMIC PLANES & SECTIONS

MEDIAN_A

The median plane is the midline longitudinal plane dividing the head and torso into right and left halves. The presence of the sectioned midline of the vertebral column and spinal cord is characteristic of this plane. The median plane is the middle sagittal (mid-sagittal) plane.

SAGITTAL_B

The sagittal plane is a longitudinal plane dividing the head and torso into left and right parts (not halves). It is parallel to the median (not medial) plane.

CORONAL, FRONTAL_C

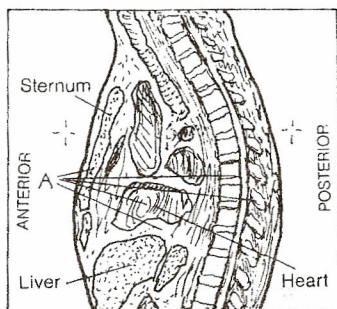
The coronal or frontal plane is a longitudinal plane dividing the body (head, torso, limbs) or its parts into front and back halves or parts.

TRANSVERSE, CROSS_D

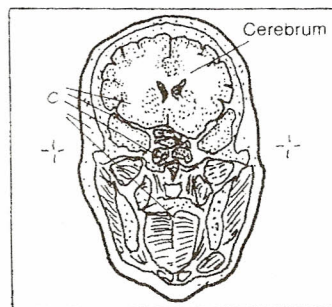
The transverse plane divides the body into upper and lower halves or parts (cross sections). It is perpendicular to the longitudinal planes. Transverse planes may be horizontal planes of the upright body. Transverse planes are called "axial" or "transaxial" sections/slices by radiologists.

CN: (1) Use your lightest colors on A-D. (2) Color a body plane in the center diagram; then color its title, related sectional view, and the sectioned body example. (3) Color everything within the dark outlines of the sectional views.

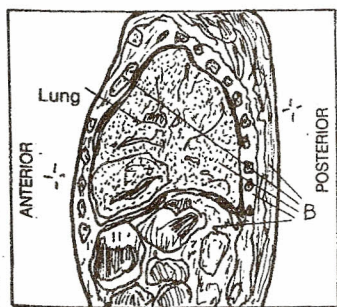
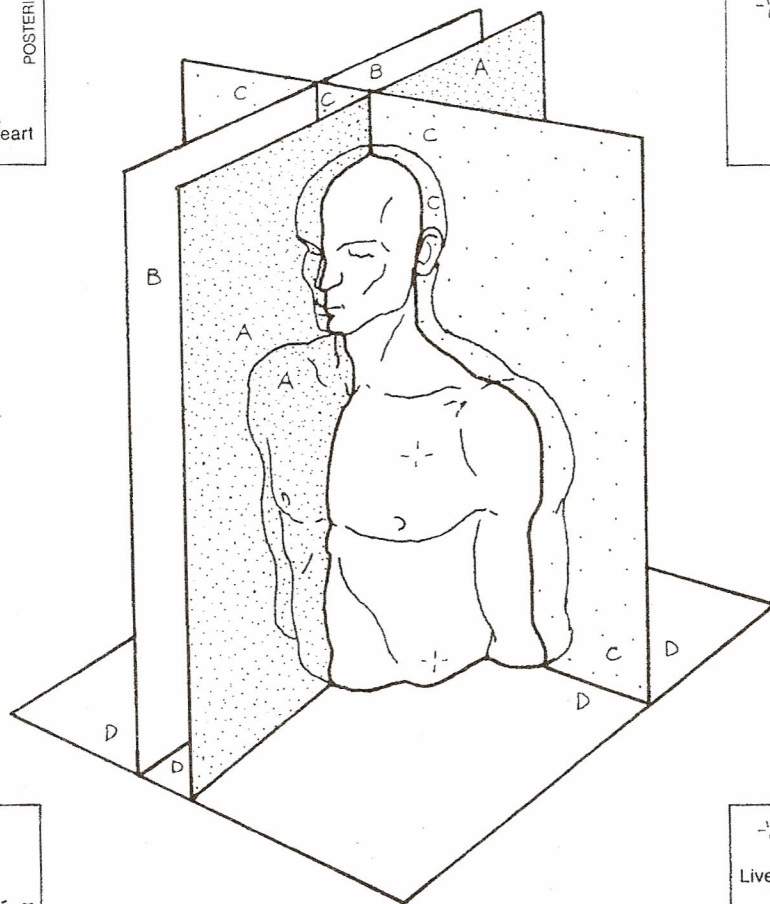
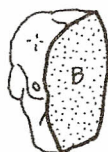
Study of the human body requires visualization of internal regions and parts. Dissection (dis. apart; sect-, cut) is the term given to preparing the body for internal inspection. One method of dissection permits consistent visual orientation by cutting the body into parts, called "sections," along the lines of reference, called "planes." The viewing and study of internal human structure in these planes is possible through medical imaging, such as computerized tomography (CT) and magnetic resonance imaging (MRI).



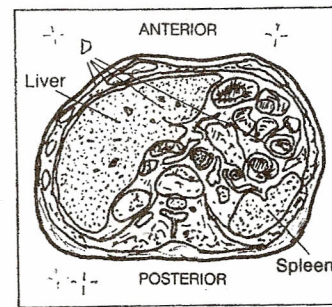
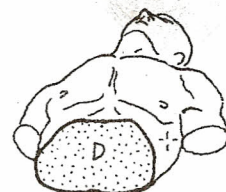
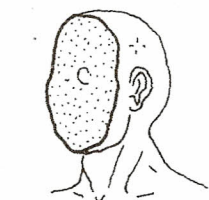
Median section through the thorax



Coronal section through the head



Sagittal section through the thorax



Cross section through the abdomen

TERMS OF POSITION & DIRECTION

CN: Color the arrows and titles, but not the illustrations.

Terms of position and direction describe the relationship of one organ to another, usually along one of the three body planes illustrated in the previous plate. To avoid confusion, these terms are related to the standard anatomical position: body standing erect, limbs extended, palms of the hands forward.

CRANIAL, SUPERIOR, ROSTRAL^A

These terms refer to a structure being closer to the head or higher than another structure of the body. These terms are not used with respect to the limbs.

ANTERIOR, VENTRAL^B

These terms refer to a structure being more in front than another structure in the body. The term "anterior" is preferred.

POSTERIOR, DORSAL^C

These terms refer to a structure being more in back than another structure in the body. The term "posterior" is preferred.

MEDIAL^D

This term refers to a structure that is closer to the median plane than another structure in the body. "Medial" is not synonymous with "median."

LATERAL^E

This term refers to a structure that is further away from the median plane than another structure in the body.

PROXIMAL^F

Employed only with reference to the limbs, this term refers to a structure being closer to the median plane or root of the limb than another structure in the limb.

DISTAL^G

Employed only with reference to the limbs, this term refers to a structure being further away from the median plane or the root of the limb than another structure in the limb.

CAUDAL, INFERIOR^H

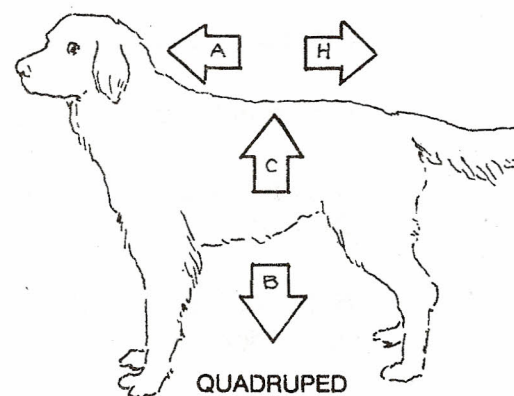
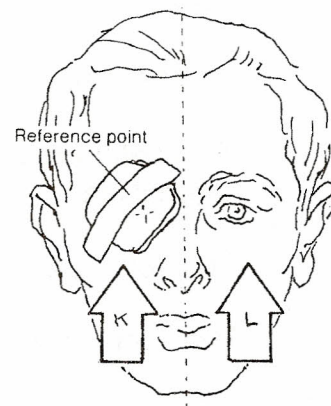
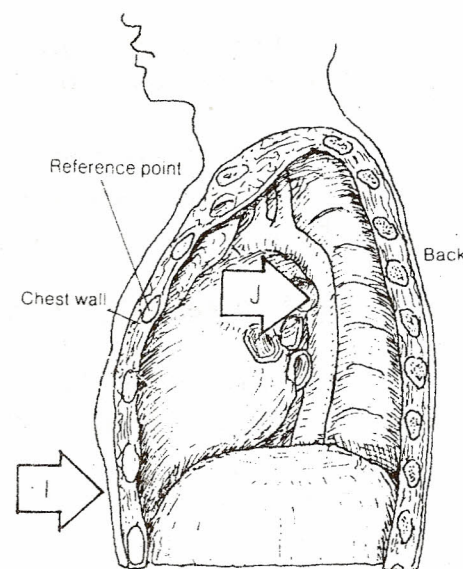
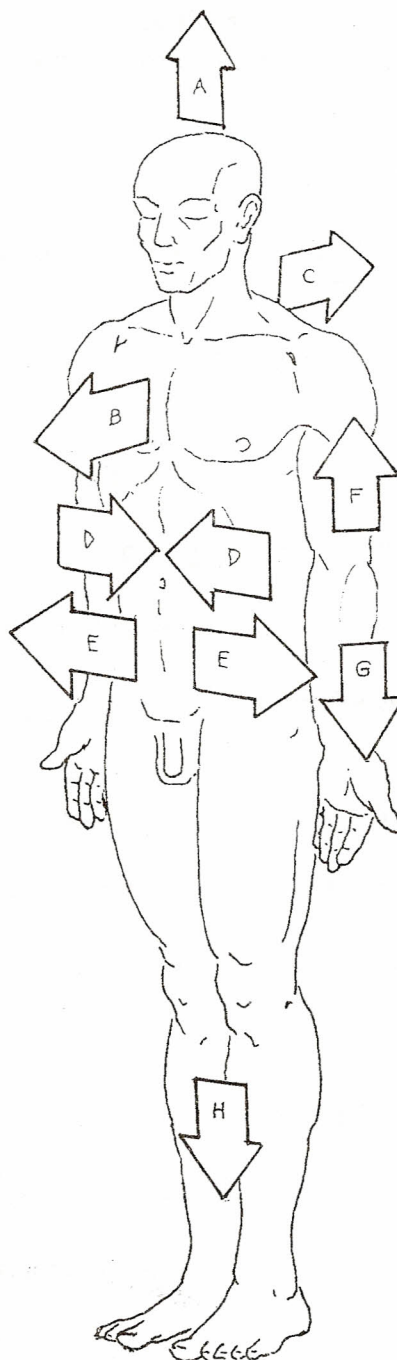
These terms refer to a structure being closer to the feet or the lower part of the body than another structure in the body. These terms are not used with respect to the limbs.

SUPERFICIAL^I DEEP^J

The term "superficial" is synonymous with external, the term "deep" with internal. Related to the reference point on the chest wall, a structure closer to the surface of the body is superficial; a structure further away from the surface is deep.

IPSILATERAL^K CONTRALATERAL^L

The term "ipsilateral" means "on the same side" (in this case, as the reference point); "contralateral" means "on the opposite side" (of the reference point).



The quadruped presents four points of direction: head end (cranial), tail end (caudal), belly side (ventral), back side (dorsal). In the biped (e.g., human), the ventral side is also anterior, the dorsal side is also posterior, the cranial end is also superior, and the caudal end is inferior.